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MEMORANDUM

Date: February 8, 1994

To: Ms. Laura Ripley, U.S. EPA

From: Ted Lietzke, Site Project Manager

Re: Scott AFB Visit, January 11-12, 1994, Project #04015.12

Two staff professionals from WWES, Ted Lietzke and Jeff Groen, along with Ms. Laura Ripley of the U.S. Environmental Protection Agency (U.S. EPA) Region V, visited Scott Air Force Base (Scott AFB) on January 11 and 12, 1994. They were given an escorted tour of the facility on January 11, which is located in Belleville, Illinois, approximately a half hour southeast of St. Louis, Missouri.

A technical meeting was conducted on January 12, which included representatives from Scott AFB, the Air Force Center for Environmental Excellence (AFCEE), and the Illinois Environmental Protection Agency (IEPA). The remainder of this memorandum will be divided into two parts: the escorted tour of Scott AFB, and the technical meeting.

TOUR OF SCOTT AFB

WWES and EPA personnel arrived on the base at approximately 11:30 a.m. Prior to the tour, Mr. Jim Tedesco, the base's IRP environmental manager provided a brief summary of the facility's current status. In general, Scott AFB provides medical and large-scale alert supplies to national and international Air Force facilities. A single northwest-southeast airstrip serves large supply planes; a small-scale maintenance facility services these planes. Scott AFB is the Command Center for 17 other Air Force Bases nation-wide. The facility also includes one Army Reserve unit. Small-caliber munitions are the only known ordnance used on the base; these munitions are used on the firing range for training.

Some base housing exists at the northeast corner of the base (the Cardinal Creek housing), but the majority of the residences and residential services exist on the west side of the base. Three former Fire Protection Training Areas exist on the base as well as a single sixty-acre landfill, which is divided by the Mosquito Creek into a north and south cell; this landfill is now closed. Two JP-4 fueling stations exist on the base. An approximately 1-mile wide river valley containing the north-south running Silver Creek provides the base's eastern boundary.

A joint-use contract is being developed by Scott AFB and the City of St. Louis regarding the construction of a second parallel municipal airstrip east of the existing airstrip and across Silver

Creek. This development is planned to relieve the existing pressure on Lambert-St. Louis International Airport. Mr. Tedesco indicated that the joint-use contract would include demolition of the Cardinal Creek housing as well as funding for the investigation/remediation of all contaminated sites located in the redevelopment areas, specifically Site 2 and Site 7 of the Installation Restoration Program (IRP).

In addition to the eight previously identified IRP sites, Mr. Tedesco mentioned three other areas of concern existed on the base: 1) a low-level radioactive waste burial site, 2) a pesticide/herbicide shop which maintains the base's golf course, and 3) previously-identified UST leak sites and existing USTs. (Approximately 97 USTs once existed on the base. 50 to 60 USTs were removed during the summer of 1993. The remaining USTs will be removed or upgraded during 1995. Approximately 10,000 cubic yards of petroleum-contaminated soil was excavated during the 1993 UST removals; this soil is currently being treated on-site by a low-temperature thermal desorption unit managed by Advanced Soil Technologies, Inc. The IEPA has been involved with this process.) These three areas of concern may be incorporated into the IRP at some time in the future.

Mr. Tedesco concluded the site summary by mentioning that the base is currently not considered an NPL site; hence, investigation and remediation activities are not required to follow CERCLA guidance. In fact, AFCEE protocol has generally taken precedence over CERCLA requirements. He understood, however, that NPL-listing is likely in the future.

The tour, itself, began at approximately 3:00 p.m. I will present the tour on a site by site basis.

Site #5 (POL - Facility 8550 Spill Site)

Approximately 20,000 gallons of fuel were reportedly spilled during a 1977 incident; 7,000 gallons were recovered and 13,000 gallons were not recovered. During the tour we observed two 180,000 gallon above-ground tanks surrounded by separate concrete berms, which were cracked and appeared to be at least 20 years old. A gravel surface existed within the berms and surrounding the tanks. We understand that no liner exists beneath the tanks. A cyclone fence surrounds the bermed area at a distance of approximately 50 feet, and the east-west trending south ditch exists an additional 40 feet south of the fence. The creek was flowing at approximately 100 gpm and existed 10 feet below the general ground surface. One monitoring well, screened below the water table, was visible between the fence and the south ditch; two additional monitoring wells existed east and northwest of the bermed area. A manhole presumably servicing east-west trending communication lines existed approximately 100 feet southeast of the bermed area. Railroad tracks exist immediately south of the south ditch, and utility lines appear to have been recently installed between the ditch and the railway. A plan is being developed to upgrade this POL site during 1995.

Site #3 (FPTA #2)

Site #3 appears to be currently used as a staging area for discarded Christmas trees, plowed snow, and excavated soil (perhaps resulting from the recent utility line installation adjacent to the railway). No vestige of the previous fire training activities (1953 to 1969) or the horse stable activities was visible, but two of the three monitoring wells were observed.

Site #1 (Landfill)

Immediately beyond and southeast of Site #3 is the landfill's south cell. First used in the 1940's, the area was cleared and grassy but nothing else could be seen. As we drove through the larger north cell we observed a well-used trail for 3-wheelers as well as several piles of construction debris (cinder blocks, etc.). Although flat, the landfill surface sloped down toward the east. The Mosquito Creek divided the north and south cells and existed approximately 10 feet below the landfill grade; miscellaneous debris (such as a propane cylinder and an I-beam) were visibly protruding from the stream banks. The landfill's surface appeared to be approximately 15 feet above the Silver Creek valley floor.

Site #4 (FPTA #3)

This fire protection training area was apparently used from 1969 to 1990. The burn pit was gravel-surfaced with a concrete curb-sized berm. Mr. Tedesco described a drainage pipe beneath the burn pit which runs to building 3173, approximately 100 feet to the southwest, where the oil/water separator is housed. (Mr. Tedesco indicated that only two oil/water separators exist on the base, and the discharge water drains to the storm sewer system.) All three monitoring wells were observed, and we were told that elevated concentrations of vinyl chloride were detected in the well samples.

Site #7 (Sludge Weathering Lagoon)

During the mid-1970's, sludge cleaned from tank bottoms was dumped into the Site #7 sludge lagoon, previously-existing, immediately southwest of the POL tanks. The lagoon, which was approximately 20' x 10' x 3' deep, was excavated in 1981, as well as 2 additional feet of soil beneath the lagoon. We observed only a flat grassy area with three monitoring wells, all apparently screened below the water table. This site may be included in the joint-use contract, referenced earlier.

Site #2 (FPTA #1)

This fire training area was utilized from 1942 to 1953, but its exact location has been difficult to reconstruct. Aerial photographs suggest the training area existed east-southeast of the existing softball field. Two of the three monitoring wells were observed during the tour. All of the wells are apparently screened below the water table which means that floating petroleum may be present but unseen.

Site #9 (Low-Level Radioactive Waste Site)

Although not currently part of the Installation Restoration Program for Scott AFB, Mr. Tedesco drove us to a vault apparently containing low-level radioactive waste from hospital operations. Mr. Tedesco said the concrete vault likely extends 8' deep and may or may not have been filled with concrete after depositing the radioactive material. Mr. Tedesco is concerned that the vault may be located too close to Silver Creek and may be exposed during unusual flood events.

Site #11 (Herbicide/Pesticide Shop)

The herbicide/pesticide shop, also known as the "entomology" shop, is located southeast of the Cardinal Creek housing near the golf course; the golf course has presumably existed on the base since the early 1940's. Although the shop was not visible during the tour due to a large fence, a 4"-6" outfall was observed draining into the North Ditch.

Site #8 (Building 1680, Dental Clinic)

The dental clinic has recently been renovated with a brick outside wall and a new roof. The base's health administration currently occupies the building and conducts periodic air sampling tests for mercury vapors.

Site #6 (Facility 1965 Spill Site - BX Station)

Three monitoring wells were installed to delineate the extent of contamination due to a UST leak at this gas station. None of the wells straddle the water table. The station is currently active.

The escorted tour and briefing were concluded at approximately 5:50 p.m.

THE TECHNICAL MEETING

A list of the meeting's participants is attached to this memorandum. In general, this technical meeting was scheduled to address IEPA/U.S. EPA technical comments and Law's comment responses regarding the base's IRP Draft Work Plan for the Stage II Remedial Investigation) Feasibility Study, Treatability Study, and Sampling and Analysis Plan completed during March, 1993. A number of general issues were addressed before site-specific concerns were addressed.

General Issues

(Comment Response #4) Although previous work on the base suggested that several aquifers existed in the 60-80 feet of unconsolidated surficial deposits, Law indicated in their comment responses that the saturated interval above bedrock be considered a single interconnected unconfined to semi-confined aquifer. During the meeting we agreed that there was no indication of a substantial confining unit above the bedrock. Future references to monitoring wells screened at various depths will include the aquifer designation, such as "deep unconfined aquifer well."

(Comment Response #12) Characterization of LNAPLs has been difficult, due to the lack of water table monitoring wells; hence, Law suggested that screened augers be left in the boreholes overnight (or longer) to determine the water level before setting the well screens. Law also suggested that long screens (^ 20') would more easily straddle the water table. While true, cross-contamination or contamination of deeper zones is a significant concern. IEPA, U.S. EPA, and WWES agreed that 10-foot well screens should be used with three feet above the water table and seven feet below the water table. Longer well screens were also discussed for recovery aquifer test wells. Twenty-foot well screens were generally agreed upon for these purposes if prior hydropunch sampling and analysis (completed at 10-foot intervals) indicate that contaminated zones are being penetrated. If contaminated zones are encountered, then the well screen will be set at the base of the contamination; the screen will not be set beneath the contamination.

(Comment Response #95) Although Risk Assessments can be completed for each IRP site, or a single RA could be completed for the entire base, all parties agreed that compliance with ARARs (already established or determined during these investigations) would adequately address risk estimates.

(Comment Response #75) All parties agreed that soil samples should not be collected from the saturated zone for the purpose of chemical analysis. Instead, ground water should be sampled for analysis. However, soil samples may be collected to determine lithology.

(Comment Responses #38 and #66) Ms. Ripley raised the general issue of data validation and QA/QC as it is reported in the Quality Assurance Project Plan (QAPP). Although the AFCEE handbook (printed in 7/93) includes QAPP information in the RI/FS reporting, the U.S. EPA Region V has a specific QAPP format which must be submitted under separate cover to U.S. EPA for review. Also discussed were the necessity of utilizing a CLP laboratory (if NPL-listed) as well as the DQ level (IEPA accepts DQL-3, while DQL-4 is necessary for NPL sites)

The IEPA raised four general issues:

- (IEPA Comment #5) Instead of using AFCEE's RI criteria the Scott work should meet

CERCLA's 9 RI criteria.

- (IEPA Comment #30) TPH analysis should not be completed; rather, BETX (8020), VOC (8240), and SVOC (8270) scans should be completed. The CAL-DHS (California Department of Health Services) gas chromatogram method (also known as 8015-modified) may be considered as a VOC/SVOC screen.

- (IEPA Comment #32) California brass rings were discussed as a soil sampling tool.

- (IEPA Comment #33) The IEPA indicated that composite samples may be collected for Metals and SVOC scans, but shouldn't be used for VOCs.

Site Specific Discussions

Site #1 (Landfill)

The volume, thickness, and content of the landfill was discussed. It is not clear whether landfill material is in contact with the ground water or not. We recommended that borings be completed through the landfill to determine thickness as well as help determine content. Such determinations would also be necessary to proceed with corrective action. Law indicated that possible ordnance posed a danger to boring activities. However, this danger was agreed to be low due to the base's use of only small arms munitions. All parties agreed that 4-6 borings through the landfill would be very helpful.

(Comment Response #40) Surface sampling of the landfill has been recommended by Law because regrading has occurred since the ERM surface sampling was completed, and their data is not likely representative of current conditions.

Site #3 (FPTA #2)
All agreed that ground water potentiometric data collected during the construction of the base's waste water treatment plant during November-December, 1988, should be removed from the RI.

Site #4 (FPTA #3)
Concern was expressed by WWES/U.S. EPA regarding the characterization of LNAPLs at this site. Most of the monitoring well screens are set below the water table.

(IEPA Comment Response #27) The IEPA also requested that soil sampling beneath the surficial chat be completed.

Site #5 (POL Spill Site)
(IEPA Response Comment #28) The IEPA was concerned that JP-4 may have been used as weed control and asked Law to sample surface soils for contamination.

(U.S. EPA Response Comments. #58, 59, 83, and 85) WWES and U.S. EPA recommended that Law sample soils within the POL berm area to a depth of 8-10 feet, or the depth to ground water. Such subsurface sampling will help quantify possible contaminant levels within the bermed area. Law agreed to do the subsurface soil sampling.

Site #6 (BX Spill Site)
Law's proposal to utilize 20-foot well screens was discussed. All agreed that such screens may be used for the recovery well as long as previous contaminant screening (possibly via a Hydropunch) indicated that deeper "non-contaminated" zones would not be cross-contaminated.

Site #7 (Sludge Weathering Lagoon)
Law indicated that "Target" is a subcontractor responsible for completing the soil-gas survey. Their methodologies will be included in the Sampling and Analysis Plan (SAP).

Also discussed was the issue of AFCEE vs. U.S. EPA protocol. As mentioned earlier in this memo, the U.S. EPA Region V QAPP format will be followed.

Site #8 (Dental Clinic)
Mercury vapors are a concern only in the building's crawl space and only during infrequent maintenance projects (possible once every six months). All agreed that lining the entire crawl space with HDPE (high-density polyethylene) was not necessary. Instead, a strip of HDPE in the areas of potential activity along with personal-protective equipment would probably suffice.

CONCLUDING ISSUES

The issue of background soil and water samples was also discussed. The current joint-use contract may allow easy-access to off-base land for the collection of background data. Ten background samples were suggested by U.S. EPA/IEPA for each medium of interest; however, in the case of water samples several sampling rounds may be completed for each of three-to-four monitoring wells to determine background water quality. (Although stainless steel well screens had been required by IEPA, the issue of stainless steel vs. PVC well screens is being re-addressed).

Finally, Mr. Tedesco was told that the ground water beneath Scott AFB would be considered a Class I Illinois aquifer unless a request for change of classification from Scott AFFB was approved by IEPA. Other classifications would be considered on a site-by-site basis.

The technical meeting concluded at approximately 3:00 p.m.

cc: Jeff Groen, MN
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